

### Abstract

A method of transmitting data over a network in a secure manner while keeping overhead low is described. Various components for a web page are retrieved and a web page is formed. The web page has some components in which sensitive data is stored in XML data islands. It is then determined which of the XML data islands contains sensitive data, such as health or medical data or financial data that is specific to an individual. These XML data islands are encrypted using an appropriate encryption routine, not limited to SSL. Once the data islands containing the sensitive data are encrypted they are transmitted over a network. The encryption routine used to secure the sensitive data is chosen based on the level of security desired before sending the data over the network and the amount of overhead resulting from the encryption that the user is willing to accept. The overhead can be reduced by using a less rigorous encryption routine and thereby increasing performance and speed. If the data requires a high degree of security, a powerful encryption routine can be used while increasing the overhead of the data when sending the data over a network.